

In the claims:

1. (Currently Amended) A packing cartridge for use in a packing bore of a plunger-type pump, wherein the packing bore has a generally cylindrical interior wall and a seat, the packing cartridge comprising:
  - a. a generally-cylindrical sleeve having an outer cylindrical profile adapted to be at least partially positioned in the packing bore;
  - b. a first abutment ring positioned in the sleeve;
  - c. a second abutment ring positioned in the sleeve and co-axially spaced apart from the first abutment ring;
  - d. telescoping structures operatively positioned between the first abutment ring and the second abutment ring to allow for squeezing of the first abutment ring and second abutment ring co-axially closer to one another; and
  - e. a retaining ring operatively positioned between the telescoping structures to retain the telescoping structures together.
2. (Original) The packing cartridge according to Claim 1, wherein the telescoping structures and the retaining ring allow for squeezing of the first abutment ring and the second abutment ring co-axially closer to one another after positioning the packing cartridge in the packing bore.
3. (Original) The packing cartridge according to Claim 2, wherein the telescoping structures have at least sufficient overlapping travel to allow for the expected crushing of packing during the operation of a plunger through the packing cartridge.
4. (Original) The packing cartridge according to Claim 2, further comprising: a spring operatively positioned between the first abutment ring and the second abutment ring.

5. (Original) The packing cartridge according to Claim 4, wherein the telescoping structures have at least sufficient overlapping travel to help maintain the first abutment ring and second abutment ring in substantial co-axial alignment while the spring is anywhere between a substantially relaxed condition and a substantially compressed condition.
6. (Currently Amended) The packing cartridge according to Claim 1, wherein the sleeve further comprises a first sleeve portion and a second sleeve portion, and wherein the telescoping structures are ~~operatively positioned between~~ a part of the first and second sleeve portions.
7. (Currently Amended) The packing cartridge according to Claim 6, wherein the first sleeve portion ~~has a first sleeve portion~~ is adapted to be positioned in at least a portion of the packing bore; and the second sleeve portion has at least a portion thereof telescopically positioned in at least a portion of the first sleeve portion.
8. (Original) The packing cartridge according to Claim 6, wherein the first abutment ring is operatively connected to the first sleeve portion and the second abutment ring is operatively connected to the second sleeve portion.
9. (Original) The packing cartridge according to Claim 6, wherein the first abutment ring is integrally formed with the first sleeve portion and the second abutment ring is integrally formed with the second sleeve portion.
10. (Original) The packing cartridge according to Claim 6, further comprising a spacer ring operatively positioned to cover the overlapping travel of the telescoping structures between the first and second sleeve portions.

11. (Currently Amended.) The packing cartridge according to Claim 1, wherein the telescoping structures are ~~operatively positioned between~~ a part of the sleeve and one of the first and second abutment rings.
12. (Original) The packing cartridge according to Claim 11, wherein the other one of the first and second abutment rings is integrally formed with the sleeve.
13. (Original) The packing cartridge according to Claim 1, wherein the retaining ring comprises a resilient ring adapted to be positioned in a groove in one of the telescoping structures, whereby the resilient ring frictionally engages the other telescoping structure to resist separation of the telescoping structures.
14. (Canceled)
15. (Original) A packing cartridge according to Claim 1, further comprising: packing positioned between the first abutment ring and the second abutment ring.
16. (Original) The packing cartridge according to Claim 15, wherein the packing further comprising a plurality of packing elements.
17. (Original) The packing cartridge according to Claim 16, wherein at least one packing spacer is positioned between any two of the plurality of packing elements.
18. (Currently Amended) The packing cartridge according to Claim 1, further comprising:
  - a. a structure forming a circumferential pressure-ring groove; and
  - b. a pressure ring positioned in the pressure-ring groove, the pressure ring having at least one smaller external dimension than an internal dimension of the pressure-ring groove, ~~whereby to provide~~ at least one clearance is provided between the pressure-ring groove and the pressure ring.

19. (Original) The packing cartridge according to Claim 18, wherein the pressure ring has a slightly smaller internal diameter than the outside diameter of a plunger, which provides a tight interference fit of the pressure ring on the plunger.
20. (Original) The packing cartridge according to Claim 19, wherein the pressure ring has an inwardly facing surface with a low coefficient of friction.
21. (Original) The packing cartridge according to Claim 19, wherein the pressure ring has a relatively thin wall thickness to allow for expansion of the pressure ring over the diameter of the plunger.
22. (Canceled)
23. (Original) The packing cartridge according to Claim 18, wherein the difference between the external dimension of the pressure ring and the internal dimension of the pressure-ring groove is at least sufficient for forming a small fluid reservoir.
24. (Original) The packing cartridge according to Claim 23, wherein the difference between the external dimension of the pressure ring and the internal dimension of the pressure-ring groove is at least 0.01 inch.
25. (Currently Amended) The packing cartridge according to Claim 24, wherein the pressure ring has a smaller ~~O.D.~~ outer diameter than an ~~I.D.~~ inner diameter of the pressure-ring groove.
26. (Original) The packing cartridge according to Claim 24, wherein the pressure ring has a smaller width than a width of the pressure-ring groove.

27. (Currently Amended) The packing cartridge according to Claim 24, wherein the pressure ring has both a smaller ~~O.D.~~ outer diameter than an ~~I.D.~~ inner diameter of the pressure groove and a smaller width than a width of the pressuring-ring groove.
28. (Original) The packing cartridge according to Claim 24, wherein the pressure ring is at least partially formed of a plastic.
29. (Original) The packing cartridge according to Claim 28, wherein the plastic is a fluorocarbon.
30. (Currently Amended) The packing cartridge according to Claim 18, wherein the structure forming the pressure-ring ~~retaining~~ groove is a portion of the first abutment ring or the second abutment ring.
31. (Currently Amended) The packing cartridge according to Claim 18, wherein the structure forming the pressure-ring ~~retaining~~ groove is a portion of the first sleeve portion or second sleeve portion.
32. (Canceled)

33. (Currently Amended) A packing cartridge for use in a packing bore of a plunger-type pump, wherein the packing bore has a generally cylindrical interior wall and a seat, the packing cartridge comprising:
- a. a generally-cylindrical sleeve having an outer cylindrical profile adapted to be at least partially positioned in the packing bore;
  - b. a first abutment ring positioned in the sleeve;
  - c. a second abutment ring positioned in the sleeve and co-axially spaced apart from the first abutment ring;
  - d. a means for telescoping operatively positioned between the first abutment ring and the second abutment ring to allow for squeezing of the first abutment ring and second abutment ring co-axially closer to one another; and
  - e. a means for axially retaining the means for telescoping together.
34. (Original) The packing cartridge according to Claim 33, wherein the means for telescoping and the means for axially retaining allow for squeezing of the first abutment ring and the second abutment ring co-axially closer to one another after positioning the packing cartridge in the packing bore.
35. (Original) The packing cartridge according to Claim 34, wherein the means for telescoping has at least sufficient overlapping travel to allow for the expected crushing of packing during the operation of a plunger through the packing cartridge.
36. (Original) The packing cartridge according to Claim 34, further comprising: a spring means operatively positioned between the first abutment ring and the second abutment ring.

37. (Original) The packing cartridge according to Claim 36, wherein the means for telescoping has at least sufficient overlapping travel to help maintain the first abutment ring and second abutment ring in substantial co-axial alignment while the spring is anywhere between a substantially relaxed condition and a substantially compressed condition.
38. (Currently Amended) The packing cartridge according to Claim 33, wherein the sleeve further comprises a first sleeve portion and a second sleeve portion, and wherein the means for telescoping is ~~operatively positioned between~~ a part of the first and second sleeve portions.
39. (Currently Amended) The packing cartridge according to Claim 38, wherein the means for telescoping comprises: the first sleeve portion ~~having a first sleeve portion~~ is adapted to be positioned in at least a portion of the packing bore; and the second sleeve portion having at least a portion thereof telescopically positioned in at least a portion of the first sleeve portion.
40. (Original) The packing cartridge according to Claim 38, wherein the first abutment ring is operatively connected to the first sleeve portion and the second abutment ring is operatively connected to the second sleeve portion.
41. (Original) The packing cartridge according to Claim 38, wherein the first abutment ring is integrally formed with the first sleeve portion and the second abutment ring is integrally formed with the second sleeve portion.
42. (Original) The packing cartridge according to Claim 38, further comprising a spacer ring operatively positioned to cover the overlapping travel of the means for telescoping.

43. (Currently Amended) The packing cartridge according to Claim 33, wherein the means for telescoping is ~~operatively positioned between~~ a part of the sleeve and one of the first and second abutment rings.
44. (Original) The packing cartridge according to Claim 43, wherein the other one of the first and second abutment rings is integrally formed with the sleeve.
45. (Canceled)
46. (Original) The packing cartridge according to Claim 33, wherein the means for axially retaining comprises:
- a. a retaining groove and an interference surface cooperatively positioned in the means for telescoping; and
  - b. a resilient ring positioned in the retaining groove for frictionally engaging the interference surface, whereby when the resilient ring in the retaining groove is moved axially against the interference surface, the resilient ring frictionally engages the interference surface and resists separation of the means for telescoping.
47. (Original) A packing cartridge according to Claim 33, further comprising: packing positioned between the first abutment ring and the second abutment ring.
48. (Original) The packing cartridge according to Claim 47, wherein the packing further comprising a plurality of packing elements.
49. (Original) The packing cartridge according to Claim 48, wherein at least one packing spacer is positioned between any two of the plurality of packing elements.



50. (Currently Amended) The packing cartridge according to Claim 33, further comprising:
- a. a structure forming a circumferential pressure-ring groove; and
  - b. a pressure ring positioned in the pressure-ring groove, the pressure ring having at least one smaller external dimension than an internal dimension of the pressure-ring groove, ~~whereby to provide~~ whereby to provide at least one clearance ~~is provided~~ between the pressure-ring groove and the pressure ring.
51. (Original) The packing cartridge according to Claim 50, wherein the pressure ring has a slightly smaller internal diameter than the outside diameter of a plunger, which provides a tight interference fit of the pressure ring on the plunger.
52. (Original) The packing cartridge according to Claim 51, wherein the pressure ring has an inwardly facing surface with a low coefficient of friction.
53. (Original) The packing cartridge according to Claim 51, wherein the pressure ring has a relatively thin wall thickness to allow for expansion of the pressure ring over the diameter of the plunger.
54. (Canceled)
55. (Original) The packing cartridge according to Claim 50, wherein the difference between the external dimension of the pressure ring and the internal dimension of the pressure-ring groove is at least sufficient for forming a small fluid reservoir.
56. (Currently Amended) The packing cartridge according to Claim [56] 55, wherein the difference between the external dimension of the pressure ring and the internal dimension of the pressure-ring groove is at least 0.01 inch.

57. (Currently Amended) The packing cartridge according to Claim 56, wherein the pressure ring has a smaller ~~O.D.~~ outer diameter than an ~~I.D.~~ inner diameter of the pressure-ring groove.
58. (Original) The packing cartridge according to Claim 56, wherein the pressure ring has a smaller width than a width of the pressure-ring groove.
59. (Currently Amended) The packing cartridge according to Claim 56, wherein the pressure ring has both a smaller ~~O.D.~~ outer diameter than an ~~I.D.~~ inner diameter of the pressure groove and a smaller width than a width of the pressuring-ring groove.
60. (Original) The packing cartridge according to Claim 56, wherein the pressure ring is at least partially formed of a plastic.
61. (Original) The packing cartridge according to Claim 60, wherein the plastic is a fluorocarbon.
62. (Currently Amended) The packing cartridge according to Claim 50, wherein the structure forming the pressure-ring ~~retaining~~ groove is a portion of the first abutment ring or the second abutment ring.
63. (Currently Amended) The packing cartridge according to Claim 50, wherein the structure forming the pressure-ring ~~retaining~~ groove is a portion of the first sleeve portion or second sleeve portion.
64. (Canceled)

65. (Currently Amended) A packing cartridge for use in a packing bore of a plunger-type pump, wherein the packing bore has a generally cylindrical interior wall and a seat, the packing cartridge comprising:
- a. a first element comprising:
    - i. a first sleeve portion adapted to be positioned in at least a portion of the packing bore; and
    - ii. a first abutment ring positioned to extend inwardly and substantially circumferentially relative to the first sleeve portion; and
  - b. a second element comprising:
    - i. a second sleeve portion having at least a portion thereof telescopically positioned in at least a portion of the first sleeve portion; and
    - ii. a second abutment ring positioned to extend inwardly and substantially circumferentially relative to the second sleeve portion;
- wherein the first sleeve portion and the second sleeve portion are operatively positioned between the first abutment ring and the second abutment ring to allow for squeezing of the first abutment ring and second abutment ring co-axially closer to one another.
66. (Original) The packing cartridge according to Claim 65, further comprising a spacer ring operatively positioned to cover the overlapping travel of the first and second sleeve portions.
67. (Currently Amended) The packing cartridge according to Claim 65, wherein the ~~telescoping structures~~ first sleeve portion and the second sleeve portion ~~and the means for axially retaining~~ allow for squeezing of the first abutment ring and the second abutment ring co-axially closer to one another after positioning the packing cartridge in the packing bore.
68. (Original) The packing cartridge according to Claim 65, further comprising: a spring operatively positioned between the first abutment ring and the second abutment ring.

69. (Currently Amended) The packing cartridge according to Claim 68, wherein the first sleeve portion and the second sleeve portion telescoping structures and the means for axially retaining allow for squeezing of the first abutment ring and the second abutment ring co-axially closer to one another after positioning the packing cartridge in the packing bore.
70. (Previously Canceled)
71. (Previously Canceled)
72. (Previously Canceled)
73. (Previously Canceled)
74. (Previously Canceled)
75. (Currently Amended) The packing cartridge according to Claim [128] 65, further comprising a means for axially retaining the first and second sleeve portions together; wherein the first and second sleeve portions telescoping structures and the means for axially retaining allow for squeezing of the first abutment ring and the second abutment ring co-axially closer to one another after positioning the packing cartridge in the packing bore.
76. (Currently Amended) The packing cartridge according to Claim [128] 65, further comprising: a spring operatively positioned between the first abutment ring and the second abutment ring.
77. (Currently Amended) The packing cartridge according to Claim 76, further comprising a means for axially retaining the first and second sleeve portions together; wherein the first and second sleeve portions telescoping structures and the means for axially retaining allow for squeezing of the first abutment ring and the second abutment ring co-axially closer to one another after positioning the packing cartridge in the packing bore.

78. (Original) The packing cartridge according to Claim 76, wherein the telescoping first and second sleeve portions have at least sufficient overlapping travel to help maintain the first abutment ring and second abutment ring in substantial co-axial alignment while the spring is anywhere between a substantially relaxed condition and a substantially compressed condition.
79. (Currently Amended) A packing cartridge according to Claim [128] 65, further comprising: packing positioned between the first abutment ring and the second abutment ring.
80. (Original) The packing cartridge according to Claim 79, wherein the packing further comprising a plurality of packing elements.
81. (Original) The packing cartridge according to Claim 80, wherein at least one packing spacer is positioned between any two of the plurality of packing elements.
82. (Currently Amended) The packing cartridge according to Claim [128] 65, wherein the first abutment ring is integrally formed with the first sleeve portion and the second abutment ring is integrally formed with the second sleeve portion.
83. (Currently Amended) The packing cartridge according to Claim 65, further comprising milled slots formed in the bottom of the sleeve to facilitate prying the cartridge out of the packing bore ~~at least one gap extending at least partially circumferentially of the first or second abutment ring to be positioned in contact with the seat of the packing bore, whereby the gap provides a lip for engaging and assisting in the pulling of the packing cartridge away from the seat and out of the interior wall of the packing bore.~~

84. (Currently Amended) The packing cartridge according to Claim 65, further comprising:
- a. a structure forming a circumferential pressure-ring groove; and
  - b. a pressure ring positioned in the pressure-ring groove, the pressure ring having at least one smaller external dimension than an internal dimension of the pressure-ring groove, ~~whereby to provide~~ to provide at least one clearance is ~~provided~~ between the pressure-ring groove and the pressure ring.
85. (Original) The packing cartridge according to Claim 84, wherein the pressure ring has a slightly smaller internal diameter than the outside diameter of a plunger, which provides a tight interference fit of the pressure ring on the plunger.
86. (Original) The packing cartridge according to Claim 85, wherein the pressure ring has an inwardly facing surface with a low coefficient of friction.
87. (Original) The packing cartridge according to Claim 85, wherein the pressure ring has a relatively thin wall thickness to allow for expansion of the pressure ring over the diameter of the plunger.
88. (Canceled)
89. (Original) The packing cartridge according to Claim 84, wherein the difference between the external dimension of the pressure ring and the internal dimension of the pressure-ring groove is at least sufficient for forming a small fluid reservoir.
90. (Currently amended) The packing cartridge according to Claim [90] 89, wherein the difference between the external dimension of the pressure ring and the internal dimension of the pressure-ring groove is at least 0.01 inch.

91. (Currently Amended) The packing cartridge according to Claim 90, wherein the pressure ring has a smaller ~~O.D.~~ outer diameter than an ~~I.D.~~ inner diameter of the pressure-ring groove.
92. (Original) The packing cartridge according to Claim 90, wherein the pressure ring has a smaller width than a width of the pressure-ring groove.
93. (Currently Amended) The packing cartridge according to Claim 90, wherein the pressure ring has both a smaller ~~O.D.~~ outer diameter than an ~~I.D.~~ inner diameter of the pressure groove and a smaller width than a width of the pressuring-ring groove.
94. (Original) The packing cartridge according to Claim 90, wherein the pressure ring is at least partially formed of a plastic.
95. (Original) The packing cartridge according to Claim 94, wherein the plastic is a fluorocarbon.
96. (Currently Amended) The packing cartridge according to Claim 84, wherein the structure forming the pressure-ring ~~retaining~~ groove is a portion of the first abutment ring or the second abutment ring.
97. (Currently Amended) The packing cartridge according to Claim 84, wherein the structure forming the pressure-ring ~~retaining~~ groove is a portion of the first sleeve portion or second sleeve portion.
98. (Canceled)
99. (Previously Canceled)
100. (Previously Canceled)
101. (Previously Canceled)
102. (Previously Canceled)

- 103. (Previously Canceled)
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- 115. (Previously Canceled)
- 116. (Previously Canceled)
- 117. (Previously Canceled)
- 118. (Previously Canceled)
- 119. (Previously Canceled)
- 120. (Previously Canceled)
- 121. (Previously Canceled)
- 122. (Previously Canceled)
- 123. (Previously Canceled)
- 124. (Previously Canceled)
- 125. (Previously Canceled)
- 126. (Previously Canceled)

- 127. (Currently Amended)      The packing cartridge according to Claim 69, wherein the first sleeve portion and the second sleeve portion ~~telescoping first and second sleeve portions~~ have at least sufficient overlapping travel to help maintain the first abutment ring and second abutment ring in substantial coaxial alignment while the spring is anywhere between a substantially relaxed condition and a substantially compressed condition.



128. (Previously Presented) A packing cartridge according to Claim 65, further comprising a means for axially retaining the first and second sleeve portions together.
129. (Canceled)
130. (Previously Presented) The packing cartridge according to Claim 128, wherein the means for axially retaining comprises:
- a. a retaining groove and an interference surface cooperatively positioned between the first and second sleeve portions; and
  - b. a resilient ring positioned in the retaining groove for frictionally engaging the interference surface, whereby when the resilient ring in the retaining groove is moved axially against the interference surface, the resilient ring frictionally engages the interference surface and resists separation of the first and second sleeve portions.
131. (Previously Presented) The packing cartridge according to Claim 128, further comprising a spacer ring operatively positioned to cover the overlapping travel of the first and second sleeve portions.
132. (New) The packing cartridge according to Claim 1, wherein the telescoping structures and the retaining ring are operative to allow a packing to be held in a pre-assembled but relaxed condition.
133. (New) The packing cartridge according to Claim 33, wherein the means for telescoping and the means for axially retaining are operative to allow a packing to be held in a pre-assembled but relaxed condition.

134. (New) The packing cartridge according to Claim 65, further comprising a means for axially retaining the first and second sleeve portions together; wherein the first and second sleeve portions and the means for axially retaining are operative to allow a packing to be held in a pre-assembled but relaxed condition.

135. (New) A packing cartridge for use in a packing bore of a plunger-type pump, wherein the packing bore has a generally cylindrical interior wall and a seat, the packing cartridge comprising:

- a. a generally-cylindrical sleeve having an outer cylindrical profile adapted to be at least partially positioned in the packing bore;
- b. a first abutment ring positioned in the sleeve;
- c. a second abutment ring positioned in the sleeve and co-axially spaced apart from the first abutment ring;
- d. packing positioned between the first abutment ring and the second abutment ring;
- e. telescoping structures operatively positioned between the first abutment ring and the second abutment ring to allow for squeezing of the first abutment ring and second abutment ring co-axially closer to one another; and
- f. a retaining ring operatively positioned between the telescoping structures to retain the telescoping structures together;

wherein the telescoping structures and the retaining ring are operative to allow the packing to be held in a pre-assembled but relaxed condition.

136. (New) The packing cartridge according to Claim 135, further comprising: a spring operatively positioned between the first abutment ring and the second abutment ring.

137. (New) The packing cartridge according to Claim 136, wherein the telescoping structures have at least sufficient overlapping travel to help maintain the first abutment ring and second abutment ring in substantial co-axial alignment while the spring is anywhere between a substantially relaxed condition and a substantially compressed condition.
138. (New) The packing cartridge according to Claim 137, wherein the sleeve further comprises a first sleeve portion and a second sleeve portion, and wherein the telescoping structures are a part of the first and second sleeve portions.
139. (New) The packing cartridge according to Claim 138, further comprising a spacer ring operatively positioned to cover the overlapping travel of the telescoping structures between the first and second sleeve portions.